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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HEWLETT-PACKARD COMPANY  
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EXAMINER	
BLACKMAN, ROCHELLE ANN J	
ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/628,947

**Applicant(s)**

MAY, GREGORY J.

**Examiner**

Rochelle Blackman

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 07/28/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "second screen" and "wherein said visible video images and said invisible light signals are transmitted through a common lens concurrently" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 6, 8, 9, 11-14, 16-18, 21-25, 27-30, and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Harrison et al., U.S. Patent No. 5,666,422.

Regarding claims 1-3, 5, 6, 8, 9, 11-14, 17, and 18, Harrison discloses a "projection system"(see Fig. 6), comprising: a "projection device configured to project visible video images onto a screen"(see 65 of Fig. 6); a "secondary signal transmitter

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configured to project invisible light signals onto said screen; wherein said secondary signal transmitter is configured to project a plurality of channels of invisible light signals onto said screen; wherein said secondary signal transmitter comprises a light emitting diode; wherein said secondary signal transmitter is positioned outside of said video projection device”(see col. 4, lines 32-36 – although the transmitter unit in Fig. 6 is not shown, it is considered to have the configuration of any one of the transmitter units shown in Figs. 1-5, therefore, see 2 and 3 of Fig. 1 for example thereof); and “wherein said invisible light signals are encoded to represent secondary information associated with said video; and wherein said secondary information is audio information”(see col. 3, line 45 to col. 4, line 12); “one or more receivers configured to receive said invisible light signals projected onto said screen and to decode said invisible light signals; wherein said receivers are loudspeakers configured to receive and decode said invisible light signals into audibly- perceptible sounds; one or more receivers configured to receive said invisible light signals projected onto said screen and to decode said invisible light signals into audibly-perceptible sounds; wherein said receivers are equipped to be selectively configured by a user to decode one of said plurality of channels of invisible light signals into audibly-perceptible sounds at a given time”(see 60 and 61 of Fig. 6); “wherein said screen is a reflective surface”(see 68 of Fig. 6); “wherein said plurality of channels of invisible light signals represents different channels of a single soundtrack having a surround sound feature; wherein said plurality of channels of invisible light signals comprise polarized light signals; wherein said plurality of channels of invisible light signals comprise modulated light signals”(see 60 and 61 of Fig 6 and col. 3, line 45

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to col. 4, line 12); “wherein said video projection device includes a lens through which said video images are projected, and wherein said secondary signal transmitter is positioned inside of said video projection device and is configured to emit said invisible light signal through said lens”(see 65 of Fig 6).

Regarding claims 21-25 and 27-29, Harrison discloses a “method for presenting audio information to a video-viewing audience”(see function of elements in Fig. 6), comprising: “projecting video images onto a screen”(see function of 65 and 68 in Fig. 6); and “projecting invisible light signals encoded to represent secondary information associated with said video images onto said screen concurrently with said video images”(see col. 4, lines 32-36 – although the transmitter unit in Fig. 6 is not shown, it is considered to have the configuration of any one of the transmitter units shown in Figs. 1-5, therefore, see the function of 2 and 3 in Fig. 1 for example thereof); “wherein said secondary information is audio information”(see col. 3, line 45 to col. 4, line 12); “wherein said video images and said invisible light signals are projected concurrently through a common lens”(see 65 of Fig. 6); “wherein said invisible light signals comprise a plurality of separate channels of invisible light signals; wherein said separate channels of invisible light signals are modulated; wherein said separate channels of invisible light signals represent different channels of surround sound audio information associated with a single soundtrack; selectively polarizing said invisible light signals; receiving said reflected invisible light signals and decoding said reflected invisible light signals into audibly-perceptible sounds”(see function of 60 and 61 in Fig 6 and col. 3, line 45 to col. 4, line 12).

Regarding claims 30 and 32, Harrison discloses a “method for watching and listening to an audio-visual presentation”(see function of elements in Fig. 6) comprising; “viewing visually-perceptible light images projected from a video projection device, which are projected onto a screen”(see function of 64, 65, and 68 in Fig. 6), and “listening to an audibly-perceptible soundtrack decoded from invisible light signals projected onto said screen”(see function of 60, 61, and 64 of Fig. 6 and see col. 4, lines 32-36 – although the transmitter unit showing its function in Fig. 6 is not shown, it is considered to have the configuration of any one of the transmitter units and function thereof shown in Figs. 1-5, therefore, see the function of 2 and 3 in Fig. 1 for example thereof); “wherein said listening step includes listening to a plurality of channels of audio information delivered from a plurality of speakers”(see function of 60 and 61 and col. 3, line 45 to col. 4, line 12).

Regarding claims 33 and 34, Harrison discloses an “audio visual projection system”(see Fig. 6), comprising: a “means for projecting video images onto a screen”(see 65 and 68 of Fig. 6); and a “means for projecting invisible light signals onto said screen, said invisible light signals being encoded to represent secondary information associated with said video images”(see col. 4, lines 32-36 – although the transmitter unit in Fig. 6 is not shown, it is considered to have the configuration of any one of the transmitter units shown in Figs. 1-5, therefore, see 2 and 3 of Fig. 1 for example thereof); “at least one receiver configured to receive said invisible light signals projected onto said screen and to decode said invisible light signals into audibly-perceptible sounds”(see 60 and 61 of Fig. 6 and col. 3, line 45 to col. 4, line 12).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 4, 10, 26, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,666,422 as applied to claims 1-3, 5, 6, 8, 9, 11-14, 16-18, 21-25, 27-30, and 32 above, and further in view of Folio, U.S. Patent No. 6,483,568.

Harrison discloses the claimed invention, as described in detail above, except for receivers comprising "personal headphone sets configured to receive and decode said invisible light signals into audibly-perceptible sounds"; a plurality of channels of invisible light signals representing "alternative soundtracks associated with said video images projected onto said screen"; separate channels of invisible light signals representing "different soundtracks associated with a single video"; and "different persons viewing the same set of visually-perceptible light images listen to different soundtracks associated with said set of projected light images".

Folio discloses, for the purpose of providing a system and method for efficiently and economically providing supplemental audio content to movie patrons, a supplemental audio content system comprising plurality of movie patron units 50a, 50d, movie patron unit 50a shown in Fig. 4, includes earphone 70a connected to headband 71a to be worn on the head of the movie patron and wireless receiver 80a carried within

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housing 74a which communicates with wireless transmitter 42a, where earphone 70a may be an open field earphone that allows the patron to hear the music, sound effects, main dialogue from the main soundtrack, while also hearing supplemental audio content, from the earphone, via wireless link, where the supplemental audio content is an alternate language selector switches 76a may be used to allow the movie patron to select the desired alternate language (see col. 2, lines 30-34 and col. 7, lines 25-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the "projection system"/ "method for presenting audio information to video-viewing audience"/ "method for watching and listening to an audio visual projection device"/ "audio visual projection system" of the Harrison reference with a movie patron unit, as taught by Harrison in order to provide a system and method that can efficiently and economically provide supplemental audio content to a viewer or viewers.

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,666,422 as applied to claims 1-3, 5, 6, 8, 9, 11-14, 16, 17, and 18 above, and further in view of Whitehead et al., U.S. Patent Application Publication No. 2004/0095558.

Harrison discloses the claimed invention except for a screen that is a "transflective surface"

Whitehead discloses a display 10 comprising a rear-projection screen 23 including collimator 18, second light modulator 20, and diffuser 22, where the collimator causes light to travel through elements of second light modulator 20 and then through



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diffuser 22 which scatters the outgoing light through a range of directions so that a viewer located on an opposite side of diffuser 22 from first light modulator 16 can see light originating from the whole area of screen 23 (see pg. 2, paragraph [0031]-[0032]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the "projection system" of the Harrison reference with a screen having characteristics like that of the Whitehead reference, in order to provide a rear projection system in the Harrison reference, thus providing multiple implementation of the "projection system".

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,666,422 as applied to claims 1-3, 5, 6, 8, 9, 11-14, 17, 18, 21-25, 27-30, and 32 above, and further in view of Allen et al., U.S. Patent No. 6,727,935.

Harrison discloses the claimed invention except that infrared light is used instead of ultraviolet light. Allen shows that ultraviolet light is an equivalent structure known in the art (see col. 5, lines 45-51). Therefore, because these two invisible lights were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the ultraviolet light for the infrared light.

4. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,666,422 as applied to claims 1-3, 5, 6, 8, 9, 11-14, 16, 17, and 18 above, and further in view of Johnson et al., U.S. Patent No. 6,377,306.

Harrison discloses the claimed invention except for a video projection device that includes a "digital micromirror device".

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Johnson discloses a projector 8 that uses a digital micromirror device (DMD), which can provide a lightweight, reliable, digital display with a wide viewing angle and good picture clarity (see col. 5, lines 34-44).

It would have been obvious to one of ordinary skill in the art at the time invention was made provide the "projection system" of the Harrison reference with a digital micro mirror device (DMD), as taught by Johnson in order to provide a lightweight, reliable, digital display with a wide viewing angle and good picture clarity.

### ***Allowable Subject Matter***

1. Claim 35 is allowed.
2. Claim 35 has been found to be allowed because the prior art of record either alone or in combination neither discloses nor makes obvious the projection system with the feature of a "secondary signal transmitter to project invisible light signals encoded to represent secondary information associated with said video images onto a second screen" in combination with the other particular combination of features recited in the claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

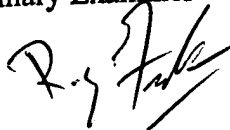
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RB

Rodney Fuller  
Primary Examiner

A handwritten signature in black ink, appearing to read 'R. Fuller', is written over the printed name and title.